Title (en)

DEFORMATION DETECTING DEVICE COMPRISING A MULTI-FUNCTIONAL FABRIC WITH FLOCKED CONDUCTIVE WEFT YARNS

Title (de)

VERFORMUNGSERFASSUNGSVORRICHTUNG MIT EINEM MULTIFUNKTIONSGEWEBE MIT GEFLOCKTEN LEITFÄHIGEN SCHUSSFÄDEN

Title (fr)

DISPOSITIF DE DÉTECTION DE DÉFORMATION COMPRENANT UN TISSU MULTIFONCTIONNEL AYANT DES FILS DE TRAME CONDUCTEURS FLOQUÉS

Publication

EP 3473976 B1 20190925 (EN)

Application

EP 17197599 A 20171020

Priority

EP 17197599 A 20171020

Abstract (en)

[origin: EP3473976A1] A deformation detecting device comprising a multi-functional fabric (10) including weft yarns (T) and warp yarns (O) woven together. At least some of the weft yarns, or alternatively some weft yarns (T), and some warp yarns (O), are electrically conductive. The weft yarns (T) are provided with a flocking made up of non-electrically conductive fibers (F) protruding substantially radially from the weft yarns (T). The electrically conductive yarns are connected to conductive ends (P) for applying an electrical voltage, in such a way that yarns that are connected to conductive ends (P) with different polarities define respective plates (A1, A2) of a capacitive sensor (S), while the fibers (F) of the flocking of the weft yarns (T) define a dielectric material interposed between the capacitive sensor plates (A1, A2), The device comprises an electronic control and processing unit (E) connected to the conductive ends (P) and configured to detect a deformation of the fabric (10) on the basis of a detection of a capacitance variation of said capacitive sensor (S).

IPC 8 full level

G01B 7/16 (2006.01); **D03D 1/00** (2006.01); **G01L 1/14** (2006.01)

CPC (source: CN EP US)

B60K 35/10 (2024.01 - US); **B60N 2/002** (2013.01 - US); **B60N 2/003** (2023.08 - CN EP); **B60N 2/0228** (2013.01 - CN EP US); **B60N 2/58** (2013.01 - EP US); **B60N 2/797** (2018.02 - EP US); **D02G 3/441** (2013.01 - EP US); **D03D 1/0088** (2013.01 - US); **D03D 15/00** (2013.01 - CN); **G01B 7/22** (2013.01 - CN EP US); **G01L 1/146** (2013.01 - EP US); B60N 2210/12 (2023.08 - CN EP); D02G 3/408 (2013.01 - EP); D10B 2101/122 (2013.01 - US); D10B 2331/02 (2013.01 - US); D10B 2331/04 (2013.01 - US); D10B 2505/08 (2013.01 - US)

Cited by

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DOCDB simple family (publication)

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